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I. Introduction

The FY 1999 Regulation and Certification (AVR) Performance Plan represents a three-year effort to comply with the annual performance planning requirement of the Government Performance and Results Act (GPRA) of 1993. Prior years' plans were instrumental in formulating and refining the strategic vision for AVR. Earlier efforts were also critical in helping to define AVR products, services, and the customer for them. With slight modification, these have been carried over into this performance plan. In fact, they form the basis upon which the performance plan is built.

Work on a fully realized performance plan for FY 1999 and beyond began in December, 1996, when the AVR management team held the first of four planning sessions. Over a period of several months, the managers confirmed the previously articulated mission statement, the general goals, and referenced both internal and external sources not available for prior plans. The primary reference was the Administrator's Safer Skies initiative discussed below. In addition, the managers also took into account audit reports from the Department of Transportation's Office of the Inspector General and the General Accounting Office.

Recognizing that the U.S. aviation system is the safest in the world, the FAA, in partnership with the aviation community and NASA, has established a focused agenda to make the skies even safer.

Building on the recommendations of the White House Commission on Aviation Safety and Security and the National Civil Aviation Review Commission (NCARC), we have embraced the goal of a five-fold reduction in the rate of fatal accidents in commercial aviation over the next ten years. We will achieve our goals, in partnership with NASA and the aviation community, through a performance-based, priority agenda which focuses on aviation safety, both domestically and internationally.

Through a disciplined, data-driven approach, we have developed a pareto analysis of past accident data to identify the top safety focus areas in Commercial Aviation, General Aviation and Cabin Safety. Using sophisticated data analysis capabilities (such as the National Aviation Safety Data Analysis Center) and expert teams from FAA, NASA, and industry, we have already conducted causal analyses in several of these areas. We will conduct further research in all areas to identify key interventions to get in front of these types of accidents.

The managers approved three medium to long-range performance goals for AVR.

- 1. Reduce the fatal accident rate for commercial air carriers by 9 percent from a 1994-1996 baseline of 0.037 fatal accidents per 100,000 flight hours. The 1999 target is 0.034 per 100,000 flight hours with a reduction to be achieved in 6 key areas outlined in the Safer Skies - A Focused Agenda.*
- 2. By FY 2000, enhance the AVR Surveillance Program to utilize risk management models and tools to forecast, identify, and target areas where surveillance best addresses critical safety issues.*
- 3. Expand both formal and informal industry/AVR partnership activities in all areas of aviation safety.*

In addition to these three performance goals, several initiatives have been developed in support of the Safer Skies - A Focused Agenda. They are summarized below and have been incorporated into this performance plan.

Commercial Aviation

- Uncontained Engine Failure
- Controlled Flight into Terrain
- Approach and Landing
- Loss of Control
- Weather

General Aviation

- Controlled Flight into Terrain
- Weather
- Loss of Control
- Survivability
- Aeronautical Decision-making

Cabin Safety

- Passenger Interference
- Passenger Seat Belt Use
- Carry-on Baggage
- Child Restraint

The Runway Incursion initiative under both Commercial and General Aviation is the primary responsibility of Air Traffic Services (ATS). However, the AVR organization is cooperating in the ATS initiative in a support role.

Each office/service in AVR has developed short- to medium-range performance initiatives that support the accomplishment of one or more of the overall AVR performance goals and the Safer Skies Agenda. To account for day-to-day performance of the organization, major end products were identified and their FY 1999 output projected. This is a direct outgrowth of the work done in earlier business/performance plans. When the FAA implements its cost allocation system, AVR will be able to associate accurate costs to each end product. For now, the best we are able to do is estimate the dollar amount of resources we devote to the product/service areas.

II. Strategic Overview

A. Mission of the FAA

FAA's mission is to provide for a safe, secure, and efficient aviation system that contributes to national security and encourages civil aviation.

B. Mission of the Regulation and Certification (AVR) Organization

The mission of the Regulation and Certification organization is to promote aviation safety in the interest of the American public by regulating and overseeing the civil aviation industry. To fulfill this mission, AVR establishes aviation safety standards; monitors safety performance; conducts aviation safety education and research; issues and maintains aviation certificates and licenses; and, manages the FAA rulemaking program.

- ➔ AVR establishes safety standards governing: (1) the design, production quality, and airworthiness of aeronautical products; (2) the operation and continuing airworthiness of aircraft, training of airmen and aviation mechanics; and, (3) the medical qualifications of airmen and air traffic controllers.
- ➔ AVR manages the FAA rulemaking program, which is the primary means by which safety standards and policy are drafted, opened to public comment, and finalized.
- ➔ AVR monitors safety performance by: (1) conducting reviews of products and reviewing safety data for trends; (2) conducting safety inspections and surveillance; (3) investigating violations and initiating enforcement action; and (4) participating in accident and incident investigations.
- ➔ AVR conducts aviation safety education and conducts and sponsors related research.
- ➔ AVR issues and maintains: (1) certificates for the design and manufacture of aircraft, aircraft engines and propellers, materials, parts and appliances; (2) certificates for air operators, air agencies, and airmen, (3) medical certificates for airmen; (4) aircraft registration records, and (5) designee appointment and monitoring.

C. AVR General Goals

The underlying motivation of every action and activity undertaken in AVR is that operating a safe aviation industry is the best means of encouraging civil aviation. Consequently, our general goals are:

1. Enhance the level of safety in U.S. civil aviation by instituting effective and efficient safety regulations and ensuring compliance with those regulations.
2. Promote U.S. leadership in global civil aviation by fostering the world's highest level of safety in the U.S. aviation industry and by fostering international harmonization and cooperation.

D. The Changing Civil Aviation Environment and Its Impact on AVR

Much of the AVR workload is demand driven. These workload drivers can be grouped into four general areas: (1) new airlines and the increasing complexity of the aviation industry; (2) globalization of the aviation industry and the increasing need for standardization of regulations and safety criteria; (3) rapidly advancing technology of aviation; and (4) new International Civil Aviation Organization (ICAO) requirements increase the number of accident/incident investigations.

- There have been more air carrier certifications in the past several years than at any time previously, including following deregulation of the industry. The increasing demand for FAA certification of these new operators has resulted in the creation of national Certification, Standardization, & Evaluation Team (CSET).
- Regional air carriers are adding turbojet aircraft to their fleet inventories. The increased use of jet aircraft in this segment of the industry has led to the development of inspector resource specialists.
- The enactment of the “Commuter” rule has required increased oversight of regional airlines. At the same time, new rules increasing oversight of public use aircraft is likely to increase demand on AVR inspection resources.
- New safety and environmental initiatives concerning the national parks, and particularly the Grand Canyon and Hawaii, have placed greater emphasis on oversight of “sightseeing” tour operators.
- In an effort to reduce costs, air carriers are increasing their use of outside maintenance and pilot training. This has led to new oversight requirements.
- Increased design and manufacture of aviation products overseas and the increased demand by foreign carriers for the right to fly into the United States has required AVR to considerably expand its activities outside the United States. In addition, global harmonization of standards, practices, and procedures has become increasingly more important both to the safety responsibilities of AVR and to the domestic aviation industry. The growing worldwide acceptance of the Global Positioning System (GPS) has accelerated the development of standards for it and its associated equipment.
- New aircraft designs, the expanded use of new materials in their construction, and increased use of automation in both the design and control of aircraft require AVR to acquire the services of internationally recognized specialists in various scientific and technological areas and to see to it that its engineering and inspection employees have the job skills and knowledge base to perform their duties effectively.

III. The Regulation and Certification Organization

AVR Organization

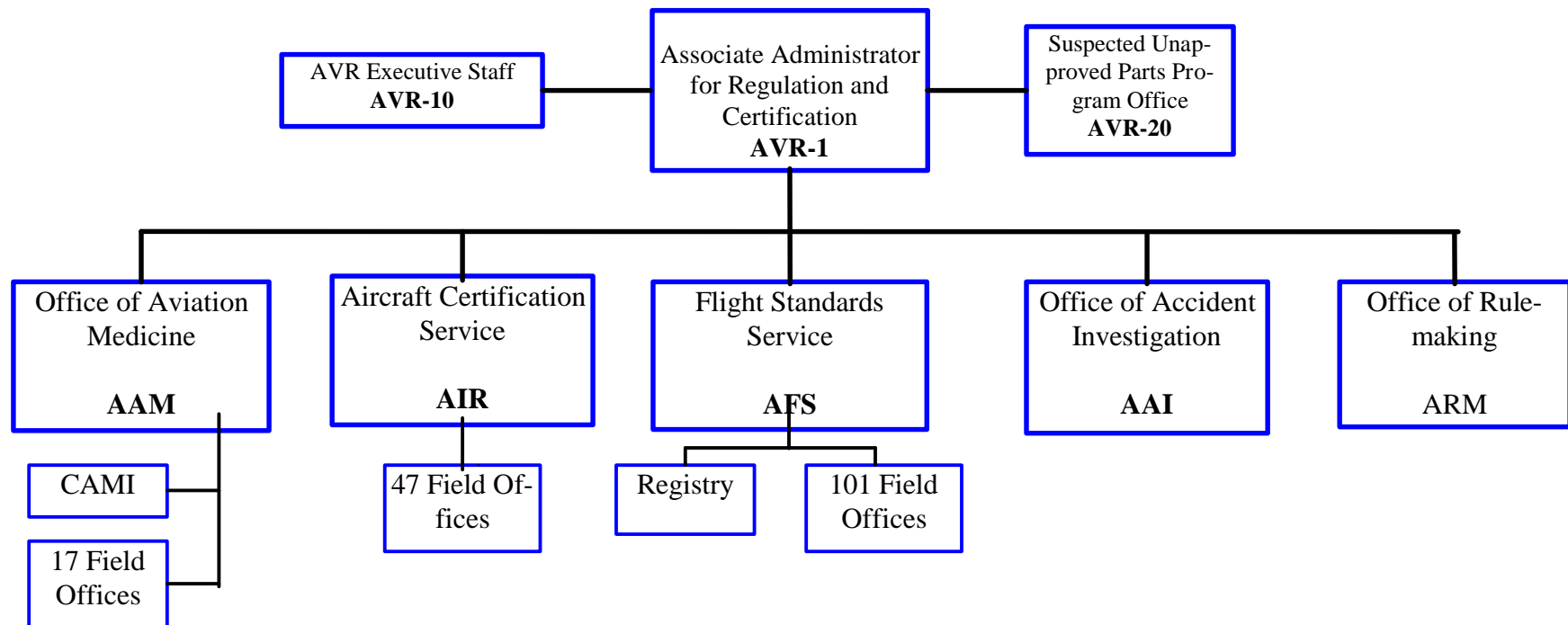


Chart 1

A. AVR's Organization and Workforce Composition

There are seven distinct organizational elements reporting to the Associate Administrator for Regulation and Certification employing 6,266 personnel. Four of these organizations, the Office of Accident Investigation (AAI), the Office of Rulemaking (ARM), the Suspected Unapproved Parts (SUPs) Program Office (AVR-20), and the AVR Executive Staff (AVR-10), are solely Washington Headquarters elements. The Aircraft Certification (AIR) and the Flight Standards (AFS) Services and the Office of Aviation Medicine (AAM) have extensive field presence, as well as their Headquarters staffs.

Table 1 and Chart 2 below give the breakdown of AVR's employment as of FY 1998 by organizational element. *Appendix C* provides the figures on AVR's safety critical workforce and end-of-year staffing history.

FY 1998 Workforce Composition

<u>Service/Office</u>	<u>Ops</u>	<u>R,E,&D</u>
Flight Standards	4,754	
Aircraft Certification	1,051	
Aviation Medicine	288	84
Accident Investigation	28	
Rulemaking	25	
SUPs	15	
Executive Direction	21	
	6,182	84

Table 1

AVR Workforce

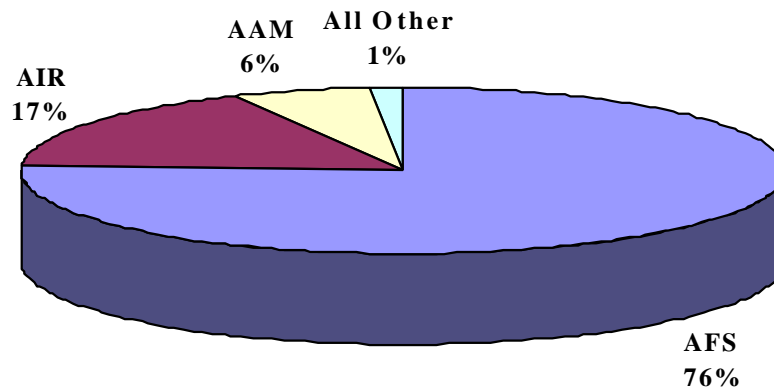


Chart 2

In addition to its federal civilian workforce, AVR utilizes “designees” (sometimes called examiners). Designees are private persons or groups of individuals designated to act as representatives of the FAA Administrator. Designees are a significant extension of our capacity to enhance aviation safety, and also represent an extensive “leveraging” of the resources we have. There are over 17,700 designees performing duties on behalf of AVR. The follow chart shows them broken down by AVR organizational

element. Examples of designees are Designated Engineering Representatives (DER's); Designated Manufacturing Inspection Representatives (DMIR's); Aviation Medical Examiners (AME's); Designated Pilot Examiners (DPE's); and Designated Mechanic Examiners (DME's).

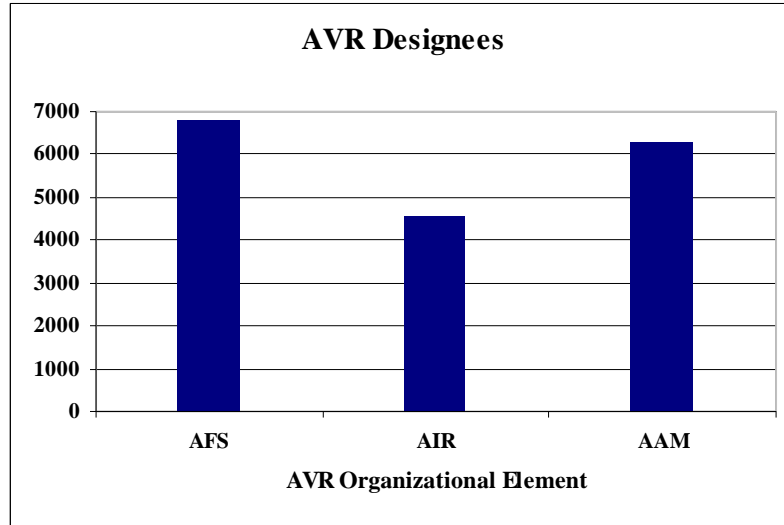


Chart 3

B. AVR Products/Services & Delivery Mechanisms

The Regulation and Certification line of business has a number of end products, the definitions of which can be found in *Appendix A*. These end products can be grouped into four major product or service lines. The following list defines each major product or service line and identifies the primary end products under each. It must be noted that these lines are not necessary mutually exclusive. For example, the certification of a new operator is not significantly different from the ongoing surveillance of that operator once its operating certificate has been granted.

→ **Standards/Policy:** We establish national aviation policy, procedures, and criteria for the aviation community and work with foreign aviation authorities to harmonize safety standards and policy worldwide. This is accomplished through the following end products:

- FAA Directives
- Federal Aviation Regulations (FARs)
- Airworthiness Directives (ADs)
- Bilateral, Multilateral, and International Agreements

→ **Certification:** We apply safety standards and policies to the aviation community and establish compliance with the standards and policies. This is accomplished through the following end products:

- Airmen Certification
- Operator Certification
- Airworthiness Certification

→ **Surveillance:** We monitor continued compliance with standards and policy and initiate corrective actions when required. This is accomplished through the following end products:

Accident Investigations
Inspections/Evaluations/Audits
Compliance/Enforcement Actions

→ **Mission Support:** We conduct aviation safety awareness training; we collect and disseminate safety-related and other aviation-related data and material, and we provide analyses of that data; we scientifically study and investigate aviation-related issues, and we promote and sponsor such research; and, we direct, manage, and support the FAA's rulemaking activities and the Aviation Rulemaking Advisory Committee (ARAC). Mission Support is provided through the following end products:

Information
Education
Research
Medical Support Services
Technical/Professional Training

C. Product/Service/Customer Matrix

The AVR line of business has a diverse customer base. *Appendix B* provides a detailed matrix of the AVR products/services and their delivery mechanisms associated with our major internal and external customers. While our ultimate customer is the American public, especially those who fly, our primary focus is on the civil aviation industry in this country and its users. Aviation is an international industry and Americans travel internationally by air in ever increasing numbers. While our mandate does not extend past the borders of the United States, we are actively involved with other nations' civil aviation authorities and in multinational civil aviation organizations. This involvement stems from the desire to provide a safe aviation environment for Americans, no matter where they may be flying, and from the fact that the FAA is recognized internationally as a world leader in aviation safety.

In the international aviation arena, AVR fulfills an important service for the American traveling public. Any foreign air carrier providing scheduled air service to the United States must conduct its operations in accordance with the operations specifications under FAR §129.11(a) and the Standards contained in ICAO Annexes relating to international air transportation. To assist in determining that carriers applying for or holding valid Department of Transportation economic authority are meeting the ICAO requirements, we conduct assessments of foreign civil aviation authorities. The assessment's purpose is to determine if the foreign air carriers that operate, or seek to operate, to the United States are receiving adequate safety oversight by their civil aviation authority as required by the applicable ICAO annexes. A summary rating describing the results of the assessment activity, when completed, is released to the general public. If a country is found to be in non-compliance with ICAO standards, technical assistance may be provided, when requested, under a formal agreement, within available agency resources.

As a collateral benefit to the assessment process, improvements have been noted in aviation safety in areas over which we have no direct authority, such as countries' domestic operations, but in which Americans may travel by air.

The table below shows the number of primary customers for AVR's products and services.

Table 2
Primary Customer Base (as of October, 1998)

<p>Air Operator Certificates — 7,700 FAR PART 121 – 149 (e.g. United Airlines) FAR PART 135 – 2,856 (Commuter, On-Demand) FAR PART 125 – 156 (Baltimore Orioles) FAR PART 129 – 552 (Foreign carriers) FAR PART 133 – 405 (External Load) FAR PART 137 – 2,996 (Agricultural) FAR PART 91 – 586 (Public Use)</p> <p>Air Agency Certificates — 5,780 FAR PART 141 – 494 Pilot Training Schools FAR PART 145 – 5,009 Repair Stations FAR PART 147 – 181 Maintenance Schools FAR PART 142 – 96 Training Center</p> <p>Aircraft — 206,924 Part 121 – 7,440 Part 135 Commuter – 908 Part 135 On-Demand – 11,276 General Aviation – 187,300</p> <p>Aviation Industry Employees covered by Anti-Drug & Alcohol Plans — 6,700</p>	<p>Active Pilots — 616,340 (as of 12/97)</p> <p>Airman Medical Certificates — 633,728</p> <p>Approved Manufacturers — 2,210</p> <p>Aviation Authorities of Other Countries Bilateral Agreements – 28 Foreign Airline Services – 93</p> <p>Non-Pilot Personnel (as of 12/97) Mechanics – 383,897 Ground Instructors – 69,366 Other – 87,629</p> <p>Flight Instructors — 78,102 NTSB Recommendations — 150 avg./yr.</p> <p>Designees — over 17,700 Aircraft Certification – 4,594 Flight Standards – 6,820 Aviation Medicine – 6,300</p> <p>Aviation Industry Trade Organizations</p>
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IV. AVR Performance Goals for FY 1999 and Beyond

The performance of an organization can be measured in a variety of ways. Output of products and services, efficiency of operations (i.e., productivity), and the extent to which it achieves its goals (i.e., effectiveness) are the most widely used measures. AVR has tracked its output for many years and projects that output into future years. To meet part of the performance measurement requirement of GPRA and OMB Circular A-11, Appendix 2, AVR will use major end products as annualized indicators of its performance. These major products and services represent the largest consumption of our resources on an annual basis.

Among the many difficulties involved in setting performance effectiveness goals for an organization whose mission is safety regulation, perhaps the most difficult is estimating when actions taken to make improvements will become measurable. The regulatory process itself can take anywhere from several months to several years to complete. Once issued, some regulations allow the regulated entity time to make the changes required. The elapsed time between the issuance of a new regulation, or set of regulations, and the achievement of full compliance can be five or more years. The desired results may be immediately observable, or it may take time and special circumstances before the results can be observed. Even when the desired results do occur, it may take time to determine why. For these reasons it is very difficult to establish annual performance effectiveness goals for the safety improvements that AVR and its partners initiate. The first of the three AVR performance effectiveness goals for FY 1999 have been formulated in concert with the Department of Transportation's FY 1999 Performance Plan.

A. Targeting Performance Areas

In a series of meetings beginning in December 1996, the AVR management team targeted four areas of performance for the organization that they believed were critical to fulfilling the mission of AVR. From these four performance areas they developed four broad-based performance goals for AVR. The targeted performance areas are as follows.

1. Contribute to aviation safety by developing policies and/or standards, programs, and systems to reduce the number of aviation accidents and incidents related to human factors.
2. Contribute to aviation safety by developing policies and/or standards, program, and systems to reduce the number of aviation accidents and incidents related to production systems, certification, and maintenance errors.
3. Establish performance targets aimed at enhancement of the AVR Surveillance Process to forecast, identify, and target areas where surveillance best addresses critical safety issues.
4. Improve industry compliance with aviation standards through the adoption of voluntary internal audit/self-disclosure programs.

B. AVR Performance Effectiveness Goals

From these targeted performance areas and the recommendations of the White House Commission on Aviation Safety and Security and the National Civil Aviation Review Commission, the AVR management approved the following AVR performance goals.

1. Reduce the fatal accident rate for commercial air carriers by 9 percent from a 1994-1996 baseline of 0.037 fatal accidents per 100,000 flight hours. The 1999 target is 0.034 per 100,000 flight hours with a reduction to be achieved in 6 key areas outlined in the Safer Skies - A Focused Agenda.
2. By FY 2000, enhance the AVR Surveillance Program to utilize risk management models and tools to forecast, identify, and target areas where surveillance best addresses critical safety issues.
3. Expand both formal and informal industry/AVR partnership activities in all areas of aviation safety.

In addition to these performance goals, and specifically designed to achieve the 80 percent reduction in fatal aviation accidents by 2007, the AVR has developed safety initiatives in partnership with the aviation industry, DOD, and NASA in support of the FAA Administrator's Safer Skies - A Focused Agenda. Since many of these initiatives start with sophisticated analytical techniques which are just beginning, it is not possible to be specific about what intervention strategies are likely to be most effective at alleviating the conditions that lead to aviation accidents. Between now and the end of Fiscal 2000 the

initial sets of intervention strategies with the greatest likelihood of success will have been identified, implementation strategies outlined, and specific targets developed. Future AVR annual performance plans will contain those specific targets. While the Administrator's Safer Skies - A Focused Agenda sets the Agency's focus and priorities in the area of aviation safety, this is not the only area of activity undertaken by AVR and its organizational components. The performance initiatives that follow the Safer Skies initiatives capture these broader efforts.

	1 st Due Date	2 nd Due Date	3 rd Due Date	4 th Due Date
<u>Safer Skies - Commercial Aviation</u> In partnerships with industry, Safer Skies will use the latest technology to help analyze U.S. and global data to analyze the following causes of commercial aviation accidents and determine the best actions to break the chain of events that lead to accidents.				
❖ Uncontained Engine Failure <ul style="list-style-type: none"> ◆ Select, prioritize, & begin implementation of selected interventions with highest pay-off for aviation safety ◆ Complete selected milestones for chosen interventions ◆ Monitor our performance-based data to track our progress 	1999 1999 2000	2000 2001	2001 2002	2002
❖ Controlled Flight Into Terrain <ul style="list-style-type: none"> ◆ Select, prioritize, & begin implementation of selected interventions with highest pay-off for aviation safety ◆ Complete selected milestones for chosen interventions ◆ Monitor our performance-based data to track our progress 	1999 1999 2000	2000 2001	2001 2002	2002
❖ Approach and Landing <ul style="list-style-type: none"> ◆ Complete causal analysis process & submit final JSAT report with recommended strategies for interventions ◆ Select, prioritize, & begin implementation of selected interventions with highest pay-off for aviation safety ◆ Complete selected milestones for chosen interventions ◆ Monitor our performance-based data to track our progress 	1999 2000 2000 2000	2001 2001	2002 2002	
❖ Loss of Control <ul style="list-style-type: none"> ◆ Initiate JSAT causal analysis process ◆ Complete causal analysis process & submit final JSAT report with recommended strategies for interventions ◆ Select, prioritize, & begin implementation of selected interventions with highest pay-off for aviation safety ◆ Complete selected milestones for chosen interventions ◆ Monitor our performance-based data to track our progress 	1999 2000 2000 2001 2001	2002 2002		
❖ Weather <ul style="list-style-type: none"> ◆ Initiate JSAT causal analysis process 	2000			

♦ Complete causal analysis process & submit final JSAT report with recommended strategies for interventions	2001			
♦ Select, prioritize, & begin implementation of selected interventions with highest pay-off for aviation safety	2001 2002	2005		
♦ Complete selected milestones for chosen interventions	2002			
♦ Monitor our performance-based data to track our progress				

	1 st Due Date	2 nd Due Date	3 rd Due Date	4 th Due Date
<p><u>Safer Skies - General Aviation</u></p> <p>In partnerships with industry, Safer Skies will use the latest technology to help analyze U.S. and global data to analyze the following causes of general aviation accidents and determine the best actions to break the chain of events that lead to accidents.</p>				
<p>❖ Controlled Flight Into Terrain</p> <p>♦ Complete causal analysis process & submit final JSAT report with recommended strategies for interventions</p> <p>♦ Select, prioritize, & begin implementation of selected interventions with highest pay-off for aviation safety</p> <p>♦ Complete selected milestones for chosen interventions</p> <p>♦ Monitor our performance-based data to track our progress</p>	1999 1999 2000 2000	 2001 2001	 2002 2002	
<p>❖ Weather</p> <p>♦ Complete causal analysis process & submit final JSAT report with recommended strategies for interventions</p> <p>♦ Select, prioritize, & begin implementation of selected interventions with highest pay-off for aviation safety</p> <p>♦ Complete selected milestones for chosen interventions</p> <p>♦ Monitor our performance-based data to track our progress</p>	1999 1999 2000 2000	 2001 2001	 2002 2002	
<p>❖ Loss of Control</p> <p>♦ Initiate JSAT causal analysis process</p> <p>♦ Complete causal analysis process & submit final JSAT report with recommended strategies for interventions</p> <p>♦ Select, prioritize, & begin implementation of selected interventions with highest pay-off for aviation safety</p> <p>♦ Complete selected milestones for chosen interventions</p> <p>♦ Monitor our performance-based data to track our progress</p>	1999 2000 2000 2001 2001	 2002 2002		
<p>❖ Survivability</p> <p>♦ Initiate JSAT causal analysis process</p> <p>♦ Complete causal analysis process & submit final JSAT report with recommended strategies for interventions</p>	1999 2000			

<ul style="list-style-type: none"> ◆ Select, prioritize, & begin implementation of selected interventions with highest pay-off for aviation safety ◆ Complete selected milestones for chosen interventions ◆ Monitor our performance-based data to track our progress 	2000 2001 2001	2002 2002		
<ul style="list-style-type: none"> ❖ Aeronautical Decision-making <ul style="list-style-type: none"> ◆ Initiate JSAT causal analysis process ◆ Complete causal analysis process & submit final JSAT report with recommended strategies for interventions ◆ Select, prioritize, & begin implementation of selected interventions with highest pay-off for aviation safety ◆ Complete selected milestones for chosen interventions ◆ Monitor our performance-based data to track our progress 	2000 2000 2001 2001 2002	2002		

	1 st Due Date	2 nd Due Date	3 rd Due Date	4 th Due Date
Safer Skies - Cabin Safety Working through the Partners in Cabin Safety (PICS), the FAA and industry will educate the traveling public in areas of cabin safety including passenger interference with flight, passenger seatbelt use, carry-on baggage, and child restraint.				
❖ Revalidate causal analysis on needed safety areas, as decided by PICS	1999			
❖ Distribute and promote public documents and pamphlets	3/31/1999			
❖ Issue NPRM on child restraint systems (FAA initiative)	2000			

AVR Performance Goal 1:

Initiative 1: Annually, the FAA will participate in the investigation of all major accidents involving Part 121 and Part 135 aircraft. Additionally, the agency will investigate at least 80 percent of all general aviation accidents and at least 95 percent of fatal general aviation accidents.

Initiative 2: Annually, the FAA will take those actions necessary to ensure that at least 87 percent of all open National Transportation Safety Board (NTSB) safety recommendations are in an “acceptable status,” and that at least 65 percent of all FAA safety recommendations are classified as “acceptable.”

Initiative 3: Annually the FAA will inspect and monitor the industry to ensure that the percentage of safety sensitive aviation industry employees who fail random tests will be kept to less than one percent (1%) for drugs and to less than one-half of one percent (0.5%) for alcohol.

Initiative 4: By March 31, 1999, issue revised AC 23.1309-1C (Equipment Systems and Installation for Small Airplanes) and revised AC 23.1311-1A (Electronic Display Instrument Systems for Small Airplanes). [\[Completed - 3/12/99\]](#)

Initiative 5: By September 30, 1999, complete the final two White House Commission milestones (2.3) related to working to define issues associated with certification approvals of advanced avionics:

- a.) RTCA task groups (including FAA participants) will develop an RTCA Report related to certification approvals of advanced avionics; [\[Completed - 12/31/98\]](#)
- b.) By September 30, 1999, RTCA will establish a Select Committee to develop implementation plans for the RTCA Task Force 4 Report.

Initiative 6: By September 30, 1999, complete development of prototype predictor tests and validation criteria for selecting future air traffic controllers, airway systems specialists, and their managers. The purpose of this research is to identify the knowledge, skills, abilities, and other personal characteristics likely to be required of operators and systems managers in the future National Airspace (NAS) architecture. By September 30, 2002, develop, validate, and implement a fourth generation selection system for air traffic controllers and a second-generation system for airway systems specialists.

Initiative 7: By September 30, 1999, develop standards and guidance associated with fuel tank safety — issue fuel tank SFAR Notice of Proposed Rulemaking.

Initiative 8: By September 30, 1999, complete the following Aging Aircraft objectives:

- a.) establish and task an Advisory Committee on Aging Transport Non-Structural Systems;
- b.) the Advisory Committee will identify airplane models to be inspected/evaluated and will establish evaluation criteria; and
- c.) establish requirements for training aids in wiring installation practices for certification engineers and designees.

- Initiative 9:** By September 30, 1999, complete draft Rule and Advisory Circular for icing protection and handling qualities in icing conditions.
- Initiative 10:** By September 30, 1999, publish, in the Federal Register, “Mega” Advisory Circulars for FAR Part 23 — Powerplant and FAR Part 25 — Crashworthiness and Structures.
- Initiative 11:** By September 30, 1999, publish an Advisory Circular for Datalink Installations, usage, and operations.
- Initiative 12:** By September 30, 2001, initiate technical assessments of two JAA member countries’ aircraft certification systems for the purpose of completing Bilateral Aviation Safety Agreements (BASA) Implementation Procedures for Airworthiness.
- Initiative 13:** By September 30, 1999, complete FAA/Joint Aviation Authorities (JAA) harmonization rulemaking project for rain and hail ingestion.
- Initiative 14:** By September 30, 1999, FAA/OST will have forwarded the final Terrain Awareness and Warning System (TAWS) Rule to OMB for its review.
- Initiative 15:** By September 30, 2000, develop an advisory circular to implement, on a voluntary basis, a maintenance resource management system (MRM), based on technical recommendations from the results of the FY 97-98 MRM report. MRM establishes methods for improved team performance and communication that should reduce human performance error and ensures open communication with the FAA and industry maintenance entities.
- Initiative 16:** By September 30, 2000, establish a rule which addresses air carrier flight crew training qualifications and operations and will ensure that by September 30, 2002, pilots are trained to manage and use flight deck automation.
- Initiative 17:** By September 30, 2000, complete rulemaking to establish new ratings and training requirements for aviation maintenance personnel.
- Initiative 18:** By September 30, 2000, implement Flight Operational Quality Assurance (FOQA) which provides maximum potential for use of a virtual data pool and data sharing for multiple airlines to determine national trends of relevance to identify problems in flight operations, personnel performance and aircraft maintenance.
- Initiative 19:** By September 30, 2001, with data obtained through the Certification, Standardization and Evaluation Team (CSET), develop enhanced, more sophisticated methods to identify and evaluate aviation system certification processes and maintenance programs to determine critical safety areas to be addressed.
- Initiative 20:** By September 30, 2002, complete rulemaking to apply new technologies and philosophies requiring older air carrier aircraft to undergo inspections after their 14th year of service to ensure structural integrity.
- Initiative 21:** By September 30, 2002, verify that in-flight icing training aids and advisory materials are available to enhance pilot awareness.

Initiative 22: By September 30, 2002, complete a rule governing repair stations (14 CFR Part 145) to reflect technical advances in aircraft maintenance practices or aircraft technology, to require quality assurance systems, and to establish training programs covering employees who perform work for the repair station.

AVR Performance Goal 2:

Initiative 23: By March 31, 1999, complete a pilot Operational Data Store and Warehouse to validate the potential return on investment with regards to building a full scale data warehouse. The pilot will produce a basis, scope, and recommended strategy for long-term planning and justification for a potential data warehouse initiative. [Completed - 10/28/98]

Initiative 24: By September 30, 1999, convert 50 percent of all airman medical files from paper and microfiche to electronic files through digital imaging. By September 30, 2002, convert 100 percent of the airman medical files into electronic files.

Initiative 25: By September 30, 1999, improve ACSEP resource targeting by developing and implementing a modeling system based on risk management principles.

Initiative 26: By December 30, 1999, provide all aviation safety inspectors and managers with tools and training necessary to forecast, identify, and target critical safety issues affecting their areas of responsibility through the Safety Performance Analysis System (SPAS).

Initiative 27: By December 31, 1999, complete deployment of new operational data servers and inspector workstations.

Initiative 28: Implement Air Transportation Oversight System (ATOS):¹

- Conduct an evaluation of ATOS Phase I effectiveness. September 30, 1999
- Complete audit of ATOS Phase I. September 30, 1999

Initiative 29: By September 30, 1999, publish Phase 1 – AVR Designee Management Handbook (covering Selection and Appointment) and complete draft of Phase II – AVR Designee Management Handbook (covering Training, Oversight, Renewal, Termination, and Industry Best Practices).

Initiative 30: By September 30, 2000, test the resource-targeting model implemented in 1999 to ensure that the intended impact (continued operational safety) is being achieved. The measure will be that required corrective action has been taken.

¹ ATOS is a new system approach to safety oversight of air transport operators. It includes establishing policies ensuring compliance during and after certification. It incorporates a team approach to certification and establishing surveillance programs and targeting resources based on several factors, including operator experience, statistical analysis to identify trends, company growth, etc.

Initiative 31: By March 15, 2001, complete development of a holistic staffing model for Flight Standards which will identify requirements and guide the allocation of resources appropriate for each Flight Standards organizational element.

Initiative 32: By September 30, 2002, implement a Service Difficulty Report (SDR) analysis capability for use with SDR's available on the Internet to allow FAA certification engineers and aviation safety inspectors to identify critical components within their areas of responsibility that are experiencing service difficulties.

AVR Performance Goal 3:

Initiative 33: Increase general aviation partnership initiatives through:

- a.) continued inspector training courses in partnership with the International Council of Air Shows;
- b.) updated agricultural aircraft standards in partnership with the National Agricultural Aviation Association (NAAA's request for rulemaking expected by June 30, 1999);
- c.) revised GA Coalition program by September 30, 1999, and expanded industry/government outreach efforts with the Coalition membership.

Initiative 34: By September 30, 1999, the Advanced General Aviation Transport Experiments (AGATE) Integrated Design and Manufacturing Workgroup will complete Composite Round-Robin Testing; publish a Standard for Industry-wide Use; and work with the industry and the FAA Aircraft Certification Office to implement the Standard.

Initiative 35: By September 30, 1999, implement, in partnership with Industry, the new Product Certification Process (formerly known as Certification Process Improvement) Initiatives in accordance with the Implementation Plan.

Initiative 36: By September 30, 2001, increase the industry participation rate in internal audit/self disclosure programs by 5 percent over that of 1996 rate.

Initiative 37: By September 30, 2001, develop a 20 percent increase in certificate holder partnership programs through the Aviation Safety Action Plan (ASAP) over that of the 1996 rate.

In addition to the preceding initiatives, AVR implemented a reengineered rulemaking process in Fiscal Year 1998. As follow-up to this effort, AVR: 1) finalized the Reengineered Rulemaking Process manual in January 1999; and, 2) plans establish a Quality Team to continually improve the quality of rulemaking documents by September 1999. AVR is also developing an operational concept for the future, a requirements process, mission and investment analysis, and an external relations process in which we communicate with our government partners and industry to learn of technological advances on the horizon in the areas of communication, navigation, surveillance, and National Airspace System Modernization systems, rather than after they are implemented. This effort is expected to be completed by September 30, 1999.

C. AVR Performance Output Goals

In addition to the program effectiveness goals list above, which are by necessity medium- to long-term, AVR has established annual program output goals that enable all interested parties to see how

the resources allocated to us are being expended. Table 3 provides data on the program output for FY 1999 by major end product and organizational element, as well as AVR totals.

Regulation and Certification FY 1999 Planned Output

	AFS	AIR	AAM	ARM	AAI	Totals
<i>Standards/Policy</i>						
FAA Directives (internal)	75	20			1	96
Federal Aviation Regs				34		34
Airworthiness Directs		347				347
BI/Multi/Inter Agrs*	10	13	1			24
<i>Certification</i>						
Operator Certs	1,696		1,100			1,796
Airworthiness Certs		1,860				1,860
Airman Certs	170,000		473,900			643,900
<i>Surveillance</i>						
Accident Investigations	1,870				40	1,910
Inspections, etc. *	310,200	2,700	1,000			313,900

Table 3

* Bilateral, Multilateral, and International Agreements

* Inspections, Evaluations, and Audits

The end product counts in the above table do not represent all the work done in AVR in a given year, but only those actions that, when completed, have a direct impact on our customers, both internal to the FAA and external to the agency.

V. AVR's Role in other FAA Performance Goals

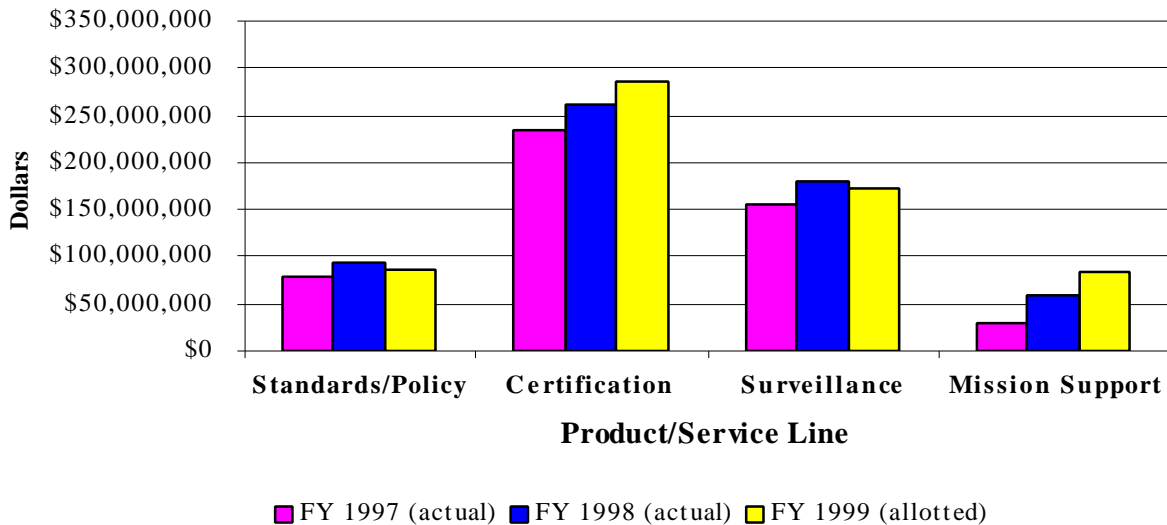
Regulation and Certification does not work in isolation from the other FAA lines of business. In particular, AVR's Flight Standards Service has been providing support to the Air Traffic Services Runway Incursion Program Office since April, 1998. The reduction of runway incursions is the only Safer Skies initiative that is not the primary responsibility of AVR.

VI. Resource Allocations

The chart on the next page represents the AVR Operations resource request for FY 1999 as reflected in the President's budget submission to Congress for that fiscal year. The information is displayed by AVR product/service line. While the total amount is accurate, the breakdown by product/service line is an estimation. Lacking a cost allocation system at this time, it is not yet possible to provide highly accurate cost figures by individual end product. The FAA is in the process of developing a costing system which will enable us, not only to project future costs, but track actual costs by end product.

The Chart 5 focuses on the operational funds provided to Regulation and Certification in the Fiscal 1999 Congressional appropriation. AVR's total operational budget FY 1999 is \$630,000,000. The

AVR Resources by Product/Service Line



Facilities and Equipment budget is \$50,000,000 which supports mission-critical automated systems. The AVR Research, Engineering, and Development (R,E,&D) funding for FY 1999 is \$113,000,000. Approximately 70 percent of the R,E,&D dollars are directed at aircraft safety research and 30 percent are earmarked for human factors and aviation medical research.

Chart 4

FY 1999 Resource by Product/Service Line

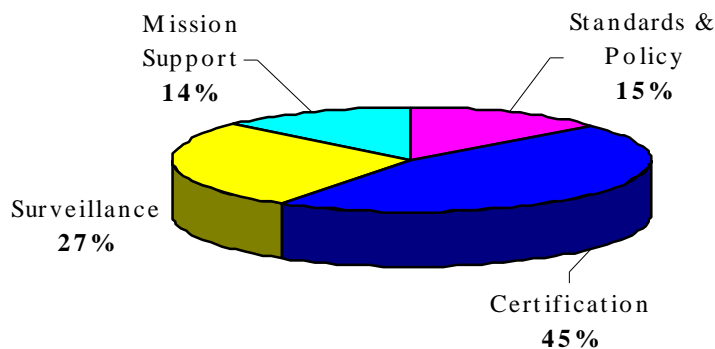


Chart 5

APPENDIX A

AVR Primary End Products and their Definitions

STANDARDS AND POLICY:

1. **FAA Directives** — Guidance/orders primarily intended to govern a process or procedure required by law or regulation and under the responsibility of AVR to oversee/enforce. These directives can apply to FAA and external entities.
2. **Federal Aviation Regulations (FARs)** — National aviation policies, standards, procedures, and/or criteria which are legally binding on the civil aviation community operating within or into the United States.
3. **Airworthiness Directives** — A class of documents having the same legal standing as a FAR, but more specific in subject matter and more limited in scope.
4. **Bilateral, Multilateral, and International Agreements** — A formal agreement between the United States and one or more foreign governments or international organizations, the contents of which are legally binding on the civil aviation communities of all parties to the agreement.

CERTIFICATION:

1. **Airmen Certification** — Skills and/or medical examination of an applicant to determine whether he or she meets the qualifications needed to acquire the type of certification sought.
2. **Operator Certification** — The methodical process by which an applicant for a certificate as an air carrier, air agency, or aviation maintenance facility must successfully complete.
3. **Airworthiness Certification** — The complex process by which the design, production quality, and airworthiness of aeronautical products are deemed to meet established aviation safety standards.

SURVEILLANCE:

1. **Accident Investigations** — The systematic assessment and identification of causal factors and safety issues pertaining to an aviation accident.
2. **Inspections/Evaluations/Audits** — A systematic process conducted by an individual or group of individuals specifically trained and authorized to assess regulatory compliance.

MISSION SUPPORT:

1. **Information** — The systematic collection, analysis, and dissemination of safety-related and other aviation-related data and material by various methods.
2. **Education** — The formal presentation of aviation safety awareness training to various interested groups.
3. **Research** — The scientific study and investigation of aviation related issues.
4. **Medical Support Services** — A wide range of health-related services provided to FAA employees to meet job requirements or for their general well being.
5. **Technical/Professional Training** — Formal instruction, with specifically designed objectives, provided to FAA employees and outside parties to enable them to perform their job duties and responsibilities or improve their job performance.

APPENDIX B

AVR Customers

Product/ Service Line	Delivery Mechanism	Designees	ATCS's	FAA Employees &/or Their Reps	Airmen/Crewmembers	Air Agencies	NTSB	Operators	Airports	Flying Public/Consumer & Public Interest Grps	Congress	Other Govt. Agencies	Aircraft Manufactur- ers/Suppliers	Int'l Aviation Authorities	Foreign Govts.	Industry/Advocacy	FAA/DOT Orgs.	Educational Institutions
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Standards/ Policy	Rulemaking procedures (including exemptions & ARAC)	X	X	X	X	X		X	X	X		X	X	X	X	X	X	
	Advisory circulars (AC's)	X	X	X	X	X		X	X	X		X	X	X	X		X	
	Handbooks (directives)	X	X	X	X	X		X	X	X		X	X	X	X		X	
	Airworthiness directives (AD's)	X	X	X	X	X		X	X	X		X	X	X	X		X	
	Medical Guideline Letters (MGL's)	X	X	X	X	X		X	X	X		X	X	X	X		X	
	Bilateral agreements and memorandums of under- standing (MOU's)	X	X	X	X	X		X	X	X		X	X	X	X		X	
	Standardization meetings, memos, and correspon- dence (internal)	X	X	X	X	X		X	X	X		X	X	X	X		X	
	Technical standard orders (TSO's)	X	X	X	X	X		X	X	X		X	X	X	X		X	
	Operations specifications (Ops Specs)	X	X	X	X	X		X	X	X		X	X	X	X		X	

Certification	Designees (Delegation Systems)	X	X	X	X	X		X				X	X		X		X	
	Special issuances	X	X	X	X	X		X				X	X		X		X	
	Examinations (e.g., written test, medical, and hands- on examinations of ATCS's)	X	X	X	X	X		X				X	X		X		X	
	Approvals (e.g., design, production, drug testing, ops specs, and TSO's)	X	X	X	X	X		X				X	X		X		X	
	Bilateral agreements	X	X	X	X	X		X				X	X		X		X	
	Clinics (physicians, occu- pational health nurses)	X	X	X	X	X		X				X	X		X		X	
	Technical work force (e.g., inspectors, engineers, phy- sicians)	X	X	X	X	X		X				X	X		X		X	

Product/ Service	Delivery Mechanism	Designees	ATCS's	FAA Employees &/or Their Reps	Airmen/Crewmembers	Air Agencies	NTSB	Operators	Airports	Flying Public/Consumer & Public Interest Grps	Congress	Other Govt. Agencies	Aircraft Manufactur- ers/Suppliers	Int'l Aviation Authorities	Foreign Govts.	Industry/Advocacy	FAA/DOT Orgs.	Educational Institutions
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Surveillance	Inspections	X	X	X	X	X		X				X	X		X		X	
	Testing	X	X	X	X	X		X				X	X		X		X	
	Trend analyses (PTRS, ACSEP)	X	X	X	X	X		X				X	X		X		X	
	Financial and labor-management conditions	X	X	X	X	X		X				X	X		X		X	
	Audits, evaluations, and special inspections	X	X	X	X	X		X				X	X		X		X	
	Operator & manufacturer internal evaluations	X	X	X	X	X		X				X	X		X		X	
	Service difficulty reports (SDR's)	X	X	X	X	X		X				X	X		X		X	
	Hotline public complaints	X	X	X	X	X		X				X	X		X		X	
	Enforcement actions	X	X	X	X	X		X				X	X		X		X	
	Employee drug testing	X	X	X	X	X		X				X	X		X		X	
	Accident Investigations						X								X		X	

Mission Support Education	Seminars, workshops, and clinics	X	X	X	X	X		X		X		X		X	X		X	
	Technical & professional training	X	X	X	X	X	X	X				X	X	X	X		X	X
	Special events	X		X	X	X		X	X	X		X	X	X	X			
	Publications (e.g., in magazines, scientific and research papers, and the Federal Register)	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
	Health awareness			X														

Mission Support Information	Information systems (e.g., SUPS, ACSEP, AIDS, SDR's, EIS, AFARS, AES, AMCS, Registry, electronic bulletin boards)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Briefings	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Publications	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Congressional and public hearings and reports					X			X	X	X					X	X	
	Certified true copies of records (e.g., licenses, registration, medical)				X	X	X			X	X	X	X		X		X	

Product/ Service	Delivery Mechanism	Designees	ATCS's	FAA Employees &/or Their Reps	Airmen/Crewmembers	Air Agencies	NTSB	Operators	Airports	Flying Public/Consumer & Public Interest Grps	Congress	Other Govt. Agencies	Aircraft Manufacturer- ers/Suppliers	Int'l Aviation Authorities	Foreign Govts.	Industry/Advocacy	FAA/DOT Orgs.	Educational Institutions
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Mission Support Research	Sponsoring research						X			X	X	X	X	X			X	
	Conducting and/or contracting for research						X			X	X	X	X	X			X	X
	Promoting research					X		X					X	X			X	X

Mission Support Medical Services	Clinics (physicians, occupational health nurses) & counseling			X														
	Contracting for medical/health services			X														
	Sponsoring third-party services			X														
	Wellness			X														

Mission Support Regulatory Program	Regulatory teams																X	
	Rulemaking and ARAC procedures					X				X			X	X		X	X	
	Regulatory agenda			X	X	X	X	X	X	X	X	X	X	X	X	X	X	
	Weekly rulemaking report																X	
	Weekly rulemaking meetings																X	
	ARAC charter					X				X	X	X	X	X		X	X	
	ARAC executive committee					X				X	X		X	X		X	X	
	ARAC working groups	X			X	X	X	X	X	X		X	X	X		X	X	
	ARAC task groups	X			X	X	X	X	X	X		X	X	X		X	X	
	Steering Committee – Rulemaking Management Council																X	
	Aging Transport Rulemaking Advisory Committee																X	
	Regulatory Reform																X	

APPENDIX C

**Safety Critical Workforce
(End-of-Year Employment)**

	FY 1996 <u>Actual</u>	FY 1997 <u>Actual</u>	FY 1998 <u>Actual</u>	FY 1999 <u>Estimated</u>
<u>Flight Standards</u>				
Operations Inspectors	1,303	1,399	1,524	1,488
Airworthiness Inspectors	1,473	1,658	1,775	1,741
Washington/Regional Inspectors	<u>209</u>	<u>217</u>	<u>270</u>	<u>257</u>
Total Inspectors	2,985	3,274	3,569	3,486
Field Safety Support	<u>467</u>	<u>665</u>	<u>720</u>	<u>711</u>
Sub-total Safety Critical	3,452	3,939	4,289	4,197
Operational Support	<u>406</u>	<u>442</u>	<u>465</u>	<u>462</u>
Total Flight Standards	3,858	4,381	4,754	4,659
<u>Aircraft Certification</u>				
Manufacturing Inspectors	161	181	186	179
Engineers/Pilots/NRS's	425	493	514	498
Safety Related Technical Support	<u>113</u>	<u>131</u>	<u>141</u>	<u>147</u>
Sub-total Safety Critical	699	805	841	824
Operational Support	<u>206</u>	<u>205</u>	<u>210</u>	<u>216</u>
Total Aircraft Certification	905	1,010	1,051	1,040
<u>Suspected Unapproved Parts</u>				
Safety Inspectors	<u>7</u>	<u>11</u>	<u>11</u>	<u>11</u>
Total Workforce	4,770	5,402	5,816	5,710

APPENDIX D

Details on AVR Performance Effectiveness Measures

Air Carrier Fatal Accident Rate

Measure:	Number of fatal accidents per 100,000 flight hours
Scope:	This measure includes both scheduled and nonscheduled flights of large U.S. air carriers (FAR Part 121) and commuter airlines (FAR Part 135). It excludes on-demand (i.e., air taxi) service and general aviation.
Source:	Part 121 and Part 135 flight hour data is submitted to BTS under FAR Parts 241 and 298, respectively. Accident data is provided by NTSB.
Baseline:	The average of all FAR Parts 121 and 135 fatal accidents for the three years from 1994 through 1996 is 0.037 per 100,000 flight hours.
Limitations:	The fatal accident rate in these categories is small and could significantly fluctuate from year to year by the occurrence or non-occurrence of a single accident. Use of an average over a number of years smooths the fluctuation.
Verification & Validation:	The FAA does comparison checking of the flight hours reported to BTS with hours reported on the Air Carrier Utilization Reports. NTSB and FAA's Office of Accident Investigation meet regularly to validate the accident count.
Comment:	This goal assumes a 12 % reduction in fatal accidents in the five areas covered by <i>Safer Skies – A Focused Agenda</i> . These areas are: controlled flight into terrain, loss of control, uncontained engine failure, approach and landing, and weather. These causal factors account for 14 of the 18 total fatal accidents in the baseline years 1994 through 1996. The net reduction – 9% – reflects a 12% reduction in areas that cover about 78% of the accidents.